Mass. Sustainable Design Roundtable
Capital vs. Operating Costs Subcommittee
Initial scoping of the problem and potential solutions & research needs.

<u>Scope of the Problem:</u>
Financial needs for SD/EE:
- Difficulty of integrating the utility/O&M costs into the capital budget – often different pots of $ (capital budget/design & construction agency vs. operating budget/"occupant" agency).

- Resources ($) for feasibility study and design phase SD/EE work is typically not available in the capital budget to pay designers to accomplish the level of study or design required.

- Identification of all costs involved in building & operating a building is not done in the design process; LCA or other methods to determine full costs are not fully utilized, nor completely executed; other benefits (i.e., productivity/health) are severely discounted or not considered at all.

Process needs for inclusion of SD/EE:
- Requirements that LCA or other feasibility studies result in the inclusion of EE/SD elements where feasible and cost-effective - and oversight to ensure the inclusion of such measures.

- Direction to public agencies already exists for including SD/EE for many agencies' projects. Implementation of existing requirements is not always accomplished.

- Feasibility Studies for determining operating costs are needed. SOW for EE/SD and impacts to long-term operating costs needs to be identified early in the design process

- Standards for sustainable design are a bit amorphous and change with the project type, applicable technologies, etc. Therefore it is difficult to set standards or norms for the proper incentives and (additional) $ required for SD/EE. (A universal issue?)

<u>Scope of Solutions:</u>
Financial Mechanisms to link Capital & Operating Budgets:
- Could future savings be capitalized and made available as part of the available capital?

- Can a concept of including the $ for utilities and O&M that will be required for a reasonable lifespan (15-30 years?) for building systems be developed to enable a life cycle cost analysis (LCA) be done in a way that those costs are truly integrated with the capital appropriation?

Funding for Feasibility study & design work:

- $ dedicated for energy efficiency (EE) investments could/should be considered as a separate line-item in project budgets; not subject to value engineering.

- Can a set-aside pool of $ be established for design work necessary to execute SD/EE concepts in the feasibility study?

- Could an incentive be developed to encourage designers to spend more time/$ in design to accomplish better design & therefore, better performance?

- Could incentives be developed to pay the incremental construction costs needed to accomplish SD/EE design & construction?

- Energy modeling or other performance diagnostic tools could be used in the design phase as well as after occupancy to monitor actual performance.

Research Needs:
Ripe for Consultant study:
- Development of financial mechanisms to fund SD/EE design & construction costs - such as for capitalization of O&M costs and potential integration/utilization of such funds into capital budgets.

- Development of a consistent methodology that designers and MEP consultants could use for doing LCA. Could a standard be developed for what is expected in LCA? Could it include performance metrics or just operating costs?

- Development of better metrics to measure the performance of a "better performing"/green building.

- Better definition of the costs & savings associated w/ various building systems needs to be developed.

Staff & Committee Expertise:
- Need a clear understanding of the public project budgeting process – for capital expenses AND for operations, utilities, & maintenance costs – for DCAM & other public projects. This process/es need to be modeled to see where the best intervention points could be.

- Best practices & good models/examples – among them are:
  - California Sustainable Building Taskforce (Exec. Order D1600; 2001) – which developed the publication: "Building Better Buildings: A Blueprint for Sustainable State Facilities"